

0° and 140° , whilst between longitudes 140° and 360° the rate of rotation was rather quicker, the average period of rotation here being well represented by . . . 10h. 12m. 45^s.²

The importance of such results as those stated above will help considerably to unravel the mystery surrounding the circulation of the envelope of this great planet, but, for the observations to be comparable, they must be accurate, systematically made, and extend continuously over moderately long periods. For the years 1891-93, Mr. Stanley Williams points out that the acceleration in the motion of the bright equatorial spots can be clearly deduced from the different periods of rotation.

They are for—

				h.	m.	s.
1891	...	...	...	10	14	21 ^s .8
1892	...	...	...	10	13	38 ^s .4
1893	...	...	...	10	12	59 ^s .4

For the determination of the latitudes of Saturn's belts, the Rev. W. Freeman has recently published a method¹ which should prove useful for observers wishing to measure kronocentric latitudes.

Recent work on Saturn has, however, been done in another direction, Miss Klumpke having undertaken a further investigation of the problem of the figure of a fluid ring or a solid ring covered with liquid, in equilibrium about Saturn. This has been previously treated of by Laplace, and in recent times by M. Tisserand and Mdme. Kowalewski. Miss Klumpke has carried on Mdme. Kowalewski's work, but includes terms of a higher order, showing that the main result is very little altered. The second part of her thesis deals with the hypothetical case in which Saturn's mass is taken as zero: the rings thus will be subject only to the centrifugal force of its motion and mutual attraction of its particles. A first approximation gives the cross section of the ring as a circle, the second becomes an ellipse, and the third cross section is inclined to be egg-shaped, one end being oval.

W. J. L.

NOTES.

THE New York Mathematical Society proposes to organise a general session, extending over several days, to be held annually during the summer vacation, at some appropriate place and time. This year the session is to be held in Brooklyn, on August 20, 21, 22, the days immediately preceding the session of the American Association for the Advancement of Science. The Council of the same Society has been considering with great care its present organisation. One of the recommendations made by it is that the name should be changed to the American Mathematical Society.

WE regret to have to announce the death of Mr. Adolph Leipner, Professor of Botany in University College, Bristol. Prof. Leipner occupied the office of honorary secretary of the Bristol Naturalists' Society from its inception in 1862, and was elected President of the Society last year. The loss caused by his death, not only to the Society, and the College he served, but also to all those who are interested in the natural history of the Bristol neighbourhood, is a serious one, for he was a naturalist of wide experience, ever ready to place his stores of knowledge at the disposal of his fellow students.

THE death is announced, at an advanced age, at Marseilles, of M. A. Derbès, one of the pioneers in the study of the life-history of Algae. His "*Recherches sur les zoospores des Algues et les anthéridies des Cryptogames*," published in 1847, in conjunction with M. Solier, was a perfect mine of new facts with regard to the reproduction of Cryptogams, and formed the

basis of all later observations on the same subject. For many years M. Derbès had been prevented, by the results of an accident, from the pursuits of botany, with the exception of the duties of his professorial chair.

AT the Annual Congress of German Naturalists and Physicians, which will be held at Vienna towards the end of September, there will be an exhibition of objects of interest in natural history and medicine.

THE Government of India are making systematic inquiry into the efficacy of hypodermic injections of strychnine in the treatment of snake-bite. The Punjab Government have at their request forwarded a list of cases so treated in the province during the past year.

AT the congress of the Sanitary Institute, to be held in Liverpool next September, Dr. Klein, F.R.S., will act as President of Section I.—Sanitary Science and Preventive Medicine; Dr. T. Stevenson has accepted the presidency of Section III.—Chemistry, Meteorology, and Geology.

AN earthquake was felt in several districts of South Wales on Wednesday, May 2. At Caerphilly, dwelling-houses were so shaken that light articles of furniture were upset, and crockery-ware fell to the ground. The tremor was also felt at Cardiff, a decided vibration being experienced at about half-past twelve in the day.

THE sum of five thousand rupees has been given by the Maharajah of Bhownagger towards a Pasteur Institute for India. Though the scheme has met with some opposition, the strong committees that have been formed in various parts of India in order to support it, leaves little doubt that the Institute will eventually be established.

THIS year's conversazione of the Society of Arts will take place on Friday evening, June 22, at the Imperial Institute.

THE Institution of Electrical Engineers will hold a conversazione in the galleries of the Royal Institute of Painters in Water Colours, Piccadilly, on the evening of Thursday, May 31.

THE Yorkshire Naturalists' Union will hold a meeting at Sedburgh, for the investigation of the neighbourhood of Dowlbiggin, Lune Valley, and Uldale, on Whit-Monday, May 14.

ON Thursday last a public meeting was held in Prince's Hall, Piccadilly, in support of the proposal to erect a memorial to the late Sir Andrew Clark. The Duke of Cambridge took the chair as President of the London Hospital, and the audience contained a large number of persons eminent in all branches of knowledge. Mr. Gladstone testified to his late physician's high character, referring to him as a representative of all that is best and noblest in the medical profession. He concluded by moving:—"That in recognition of the great services rendered to the community by Sir Andrew Clark, Bart., M.D., a memorial be established which shall perpetuate his name and his work." This resolution was carried, and also the following, moved by Canon Wilberforce:—"That steps be taken to raise a sum sufficient for the erection of a block of buildings at the London Hospital, to bear the name of Sir Andrew Clark, which will afford increased facilities for the relief of suffering and the advancement of medical science." Mr. Jonathan Hutchinson, who was one of Sir Andrew Clark's colleagues, made some very appropriate remarks in supporting the first resolution. Medical men did not claim for the deceased physician the discoveries of a Harvey, a Jenner, or a Hunter, he said, but they nevertheless held that he was in the highest and best sense of the word a representative man, to whom it was the duty and the privilege and the interest of the whole community to do honour. Shakespeare had said "one good deed, dying

¹ *Monthly Notices*, liv. No. 1, Nov. 1893.

tongueless, slaughters a thousand," and he (Mr. Hutchinson) took that to mean that an injury was inflicted on future ages if a single good deed were allowed to die without suitable commemoration, and in the life of Sir Andrew Clark they had a record which would be a treasure for generations yet to come.

THE arrangements for the sixty-second annual meeting of the British Medical Association, to be held at Bristol on July 31, August 1, 2, and 3, are given in the *British Medical Journal*. The President-elect is Dr. E. Long-Fox. An address in Medicine will be given by Prof. T. G. Stewart, one in Surgery will be delivered by Dr. Greig Smith, and Sir Charles Cameron will discourse on Public Medicine. The Sections and their Presidents are as follows:—(A) Medicine, Dr. Frederick T. Roberts; (B) Surgery, Dr. W. Mitchell Banks; (C) Obstetric Medicine and Gynecology, Prof. J. G. Swayne; (D) Public Medicine, Prof. W. H. Corfield; (E) Psychology, Dr. G. F. Blandford; (F) Pathology, Dr. G. Sims Woodhead; (G) Ophthalmology, Dr. F. R. Cross; (H) Laryngology and Otology, Dr. P. McBride; (I) Dermatology, Dr. A. J. Harrison; (J) Diseases of Children, Dr. W. Howship Dickinson. The Annual Museum in connection with the meeting will be arranged in the following sections: Section A.—Food and Drugs, including Prepared Foods, Chemical and Pharmaceutical Preparations, &c. Section B.—Instruments, comprising Medical and Surgical Instruments and Appliances, Electrical Instruments, Microscopes, &c. Section C.—Books, including Diagrams, Charts, &c. Section D.—Sanitary and Ambulance Appliances. All communications on general matters connected with the Museum, and all applications for space, should be addressed to Mr. John Dacre, 14, Eaton-crescent, Clifton, Bristol, before June 20, and a brief description of each exhibit for insertion in the Museum Catalogue must be in the hands of the respective Secretaries before July 1.

AT the meeting of the French Meteorological Society on April 12, M. Renou, President, made some interesting remarks upon thunderstorms. He said that they occurred in some parts of France every day of the year, and during six or seven months in 1892 as many as 328 were counted. He remarked that they were more frequent in Europe than in equatorial regions; at Sumatra, for instance, storms occur during the six months of the south-east monsoon, but thunder is never heard. In France they generally traverse a narrow tract from south-west to north-east, but in the hot regions of the globe, on the contrary, the storms are nearly stationary. They are very exceptional in Peru, occurring only once or twice in a century; there was one in January 1877, but none had occurred previously since 1803.

REPORTS of cuckoos being seen and heard long before the usual date of the arrival of the bird are made every year. Generally the reports cannot be relied upon, but a circumstantial account by Dr. A. J. Fleming, in the *Zoologist* for April, goes to show that he really saw a cuckoo on March 5 of this year. The accuracy of his observations, however, is questioned in the current number of the journal by several naturalists, most of whom assert that March cuckoos do not exist. Mr. J. E. Harting remarks:—"From numerous observations made by competent naturalists in different localities it appears that the usual time of arrival of the cuckoo in this country is between the 20th and 27th April; and the average date of its appearance may be said to be on the 23rd of that month, St. George's Day. In no instance, so far as I am aware, has the bird been heard, or seen (by any competent observer) before the 6th of April. . . . It is surprising how few people are to be trusted, either in the matter of eyes or ears, in regard to the cuckoo. Many do not know a cuckoo on the wing from a male sparrowhawk, and others convince themselves that they have heard this

bird's notes when they have been listening to a clever imitation by some village bird-nesting boy, or to the still more deceptive notes of a cuckoo-clock in a neighbouring cottage."

LIEUT.-COLONEL SAWYER read a paper to the Royal Geographical Society, at its last meeting, on the Bakhtiari Mountains and Upper Elam, a part of Persia which his surveys in 1890 have made it possible to map correctly. In the practical work of the survey he was assisted by the Indian surveyor Imam Sharif, who subsequently accompanied Mr. Bent's expedition to Hadramaut. The country is practically the continuation of the classical Zagros mountains, and the portion surveyed is a tract 30 miles wide between the bordering mountain ridges, and 300 miles in length from north-west to south-east. In the centre the mountains culminate in the mass of Kuh-i-rang, 12,800 feet above the sea, whence flow the chief rivers of Persia, the Zanderud, the Ab-idiz and the Karun, the upper courses of which have been mapped correctly for the first time. This central mass not only separates two distinct drainage areas, it divides two entirely different ethnographical regions—the country of the Bakhtiari lies to the east, and Upper Elam to the west. Upper Elam is peculiarly rich in ancient remains, few of which have yet been examined, and many of them reach back to a very high antiquity. The expedition, though primarily for the purpose of surveying, did not fail to take account of more specially scientific matters, and although little was said about the geology of the mountains, their flora seems to have been pretty fully studied, as 350 species of plants were collected, of which seventeen at least were new to science. The people, who have been described from observations on this expedition by Mrs. Bishop, struck Colonel Sawyer as proud and warlike, and although warped in character by their isolated habitat, they yet remain possessed of many fine characteristics, physical and mental.

THE May number of the *Scottish Geographical Magazine* contains several interesting papers. One on the geographical unity of the British Empire should strictly be entitled the economic unity, as the bond cannot without much straining be called a geographical one. Herr Victor Dingelstedt gives an account of the isolated valley of the Vièze, at the foot of the Dent du Midi, showing how isolation and the physical conditions of configuration, climate, and vegetation have combined to keep the people in a remarkably backward and primitive state. Mr. Stuart-Glennie gives in very brief abstract an outline of his travels on the border-land between Turkey and Greece in an article on "Dodona, Olympos, and Samothrace," which would have been more valuable if the date of his visit had been indicated. He promises to complete the account of the ethnography of the region in a forthcoming work, under the title of "Ancient Hellas."

THE *Journal* of the Tyneside Geographical Society is rapidly approaching the form of a well-to-do geographical monthly; and although still relying to a considerable extent on articles reprinted from other publications, the May number includes two original lectures, one by Mr. Clements R. Markham, F.R.S., on Peru, and the other by Lord Roberts, on Delhi and its siege in 1857.

THE first part for 1894 of the *Records* of the Geological Survey of India contains a report on the Bhaganwala Coal-field of the Salt Range, by T. D. la Touche. This coal-field was first made known in 1853; reports on it have appeared by Dr. Oldham (1864) and Mr. Wynne (1878). Estimates of its value have recently been published, which Dr. King, the Director of the Survey, believes to be greatly exaggerated; hence the present report. The coal is of Nummulitic age; the seam varies much in thickness, and is irregular in its mode of

occurrence. Estimates based on a thickness of from $3\frac{1}{2}$ to 5 feet, and a maximum depth of 2000 feet, give one million tons as the probable quantity available,

THE Director's tri-monthly notes in the same number of the *Records* contain a full account of the gigantic landslip in Garhwal, noticed previously in NATURE (vol. xlix. p. 438). The fall of rock took place last September, and dammed up the valley of the Bihri Ganga by a wall 900 feet high. The water has steadily accumulated behind the dam, and is now daily expected to overflow. The first rush of water will be severe, and probably about 250 feet of the dam will be carried away; after that there may be a permanent lake established with a natural outfall. An investigation of this interesting landslip is in progress by Mr. Holland.

DR. J. W. GREGORY describes the Echinoidea of Cutch in the "*Palæontologica Indica*" (ser. ix. vol. ii. part 1, 1893). The Echinoids are few and small; they lived probably on sand and in rock-pools in a somewhat rough sea around a series of coral-reefs. More light on the geology of the area may be expected from the large collection of corals. The fauna seems to be homotaxial with the Callovian of Europe.

A RECENT number of the *Comptes Rendus* contains a note by M. E. Bouty on the capacity of a polarised surface of mercury and other substances. By means of the principles of thermodynamics, Lippmann has shown that the polarisation capacity of unit surface of mercury, the surface being kept constant, is equal to $-\frac{d^2A}{d\epsilon^2}$ where A is the surface tension and ϵ the counter

electromotive force of polarisation. M. Lippmann has also calculated the value of this expression for mercury in contact with acidulated water, and found that, at any rate within wide limits, the value is independent of ϵ . On the other hand, the author, as well as Blondlot, finds that in the case of platinum electrodes in different electrolytes, even when the time of charge is evanescent, the capacity increases rapidly with the increase of ϵ . The author has shown that this increase does not take place if we consider that part of the capacity which is capable of producing a discharge current in an external circuit, and that polarisation phenomena are in part irreversible, except for infinitely small values of the electromotive force and the time. The experiments thus show that, if the irreversible parts of the phenomena are omitted, the capacity of platinum is independent of ϵ , just as is the case with mercury. With platinum electrodes and a solution of sodium nitrate the author has found values for the capacity of a square centimetre of the electrode at temperatures between 21° and 25° of from 17.72 microfarads for a solution containing two equivalents of the salt per litre to 9.32 microfarads for a solution of 0.0001 equivalents per litre. In the case of distilled water (platinum electrodes) he finds the capacity per square centimetre to be 8.27 microfarads.

IN a paper read at the Botanical Congress at Genoa, last year, Prof. Saccardo calculates the number of species of plants at present known as 173,706, distributed as follows:—Flowering plants, 105,231; Ferns, 2819; other Vascular Cryptogams, 565; Mosses, 4609; Hepaticæ, 3041; Lichens, 5600; Fungi, 39,603; Algæ, 12,178. Prof. Saccardo thinks it probable that the total number of existing species of Fungi may amount to 250,000, and of all other plants to 135,000.

A SET of simple and instructive heat experiments, illustrating the laws of expansion, radiation, and convection, are described by Dr. V. Dvorák in the *Zeitschrift für Physikalischen Unterricht*. To show the expansion of a solid by heat, a brass wire, 1.5m. long, is suspended horizontally by two clamps. A weight of about 5 gr. is suspended at the middle of the wire,

and a small wooden block is placed below it. The expansion produced by passing a lighted match along the wire produces a perceptible lowering of the weight. To prove that emissive power is proportional to the power of absorbing radiant heat, Dr. Dvorák constructs a special thermo-couple, consisting of a disc of thin German silver, to the back of which a thin steel wire is soldered. Both are connected with a delicate galvanometer. When the disc is lamp-black and exposed to radiation, a larger deflection is obtained than after the lamp-black has been wiped off. A still larger deflection is obtained when the lamp-black is moistened with olive oil. A comparison of these indications with the deflections obtained from the radiation of a Leslie cube with the corresponding surfaces proves the law referred to. To exhibit the phenomenon of latent heat, a plate of copper foil mounted on a wooden ring is soldered to a German silver wire, and both copper and wire are provided with binding screws, and connected with a galvanometer. By depressing the copper foil into the ring a shallow dish is obtained, in which liquids may be evaporated. The galvanometer shows the loss of heat attending evaporation, the amount of latent heat differing with the liquid used. Convection currents in air and water are, according to Dr. Dvorák, well shown by introducing the liquid or gas between a screen and a point of light. The latter may be produced by placing a screen with a small hole at the principal focus of a lens receiving the sun's rays. A Bunsen burner with a small flame, a glowing match, water containing a wire heated by an electric current, or water cooled by a fragment of ice or salt at the surface, show beautiful ascending or descending clouds on the screen.

WE welcome the May number of "The Country Month by Month," by Mrs. J. A. Owen and Prof. Boulger. What has been said of previous issues applies to this. The book is a chatty and bright companion for country rambles.

PROF. W. R. FISHER wishes us to state that he was not present at the evening-meeting of the Essex Field Club at Chingford, reported in our last issue (p. 12).

THE quarterly *Journal* of the Geological Society, No. 198, which has just been published, contains, in addition to the papers read before the Society from November 1893 to February 1894, inclusive, the anniversary address of the President, "On some Recent Work of the Geological Society," part ii. The *Journal* reaches its jubilee this year, and a suitable index to the contents is being prepared to commemorate the occurrence.

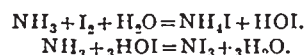
MESSRS. HACHETTE AND CO., of Paris, have begun to publish, in parts, a work by M. Maspero, entitled "*L'Histoire Ancienne des Peuples de l'Orient*." Maspero's book, published under the same title nearly twenty years ago, has become classical. That of which the publication has just been commenced, however, will only be like its predecessor in name and general outline; for the text will be new, and it is to be richly illustrated. It will be divided into three volumes, issued in about 150 separate parts of sixteen pages each. Oriental history will be scientifically treated, and the work will appeal to all who are interested in the discoveries that have been made in Egypt, Assyria, Chaldea, and Asia Minor during the last thirty years.

THE March number of *Modern Medicine and Bacteriological Review* contains a reminiscence of Sir Andrew Clark from the pen of Miss Frances E. Willard. The little article is not only interesting but useful, containing an exact account of general and most simple instructions recommended by Sir Andrew Clark for the maintenance of health, which admit of wide application. Amongst the bacteriological notes, we find a

reference to a paper by E. Fraenkel, published in the *Deutsche Medicinische Wochenschrift*, on the treatment of fifty-seven cases of typhoid fever by injection of a sterilised culture of typhoid bacilli. Fraenkel states that the results obtainable by this method of treatment are superior to those of any other method which has been previously employed. The earlier the treatment commences the more successful are the results obtained. The injections are said to be perfectly harmless when made into the muscle, but cause much pain when introduced subcutaneously. Dr. Kellogg contributes an article on the "Relation of Modern Physiological Chemistry to Vegetarianism," which is to be continued. The other longer papers are chiefly of medical interest.

THE explosive halogen compounds of nitrogen form the subject of a memoir contributed to the current number of the *Berichte* by Dr. Seliwanow, of St. Petersburg. Pure trichloride of nitrogen, NCl_3 , was prepared for the first time in a state of purity in the year 1888, by Dr. Gattermann, in Prof. Victor Meyer's laboratory at Göttingen. It was shown to be an oily liquid of so unstable a character that strong sunlight, or the light waves emanating from a powerful artificial source such as burning magnesium, instantly provoke its extremely violent explosive decomposition. By working in a dull light, however, Dr. Gattermann succeeded in weighing a quantity of the liquid and analysing it. He showed, moreover, that the crude liquid substance obtained by the action of chlorine on ammonium chloride is a mixture of two or perhaps three different chlorides of nitrogen, and that the pure trichloride is only to be obtained by subjecting this product, after removal of all sal-ammoniac by washing and subsequently draining from water, to the action of a rapid stream of chlorine. Iodide of nitrogen has frequently formed the subject of investigation, and last year Dr. Szuhay, of Buda-Pesth, showed that the substance obtained by adding excess of ammonia to a solution of iodine in potassium iodide consists largely of the compound, NHI_2 . The existence of an iodide containing hydrogen had previously been indicated by Dr. Gladstone and M. Bineau, but it appears probable that in presence of excess of iodine, the tri-iodide NI_3 is also produced in large quantity. That halogen compounds of nitrogen containing likewise hydrogen are capable of existence would appear, therefore, to be fully proved by the work of Drs. Gattermann and Szuhay, and the latter chemist actually succeeded in preparing a silver derivative NAgI_2 , a substance as explosive as the iodide of nitrogen itself. Dr. Seliwanow now brings forward evidence to show that the formation of chloride or iodide of nitrogen by the action of the halogens upon ammonia occurs in two stages, hypochlorous or hypo-iodous acid being first produced. When a dilute instead of a concentrated solution of iodine is employed, no separation of iodide of nitrogen occurs, and the solution is found to contain both ammonium iodide and hypo-iodous acid HOI ; the latter is readily detected by means of a reaction with potassium iodide in which iodine is liberated, which Dr. Seliwanow has recently discovered during the course of his work on certain organic derivatives of this acid. Upon increasing the strength of the solution of iodine, iodide of nitrogen at length commences to be deposited, and this is found to occur at the expense of the hypo-iodous acid. Hence iodide of nitrogen appears to be formed directly by the action of ammonia upon the unstable hypo-iodous acid produced in the first stage of the reaction. A similar explanation is also shown to hold with respect to the formation of chloride of nitrogen. It is interesting to observe that Dr. Seliwanow actually proves the existence of hypo-iodous acid in a solution of ammonia, a fact which may perhaps be accounted for by the recent remarkable discovery of Prof. Victor Meyer that this so-called acid is really endowed with basic properties. When it does react with am-

monia, the chief product, as above shown, is iodide of nitrogen. The two equations for the formation of the latter are formulated by Dr. Seliwanow as follows:—



THE additions to the Zoological Society's Gardens during the past week include a De Filippi's Meadow Starling (*Sturnella de filippi*) from La Plata, presented by Sir Harry B. Lumsden, C.B.; two Common Peafowls (*Pavo cristatus*, ♀♀) from India, presented by Mr. Richard Hunter; a Chicken Snake (*Coluber quadrivittatus*) from Florida, U.S.A., presented by Master James W. Philips; a Common Boa (*Boa constrictor*), two Tree Boas (*Corallus hortulanus*), a Thick-necked Tree Boa (*Epicrates cenchris*), a Carinated Snake (*Herpetodryas carinatus*) from Trinidad, presented by Messrs. Mole and Ulrich; a Ring-hals Snake (*Sepedon hamachates*), two Cape Vipers (*Causus rhombatus*) from South Africa, presented by Mr. J. E. Matcham; a Jaguar (*Felis onca*, ♂) from South America, two Plumed Ground Doves (*Geopelia plumifera*), two White Storks (*Ciconia alba*), two Vivacious Snakes (*Tachymenis vivax*), two Four-lined Snakes (*Coluber quadrilineatus*), four Green Lizards (*Lacerta viridis*) European, four Dark Green Snakes (*Zamenis atrovirens*), two Glass Snakes (*Pseudopus pallasi*) from Dalmatia, purchased; two Senegal Touracons (*Corythaix persa*) from West Africa, received in exchange; two Barbary Wild Sheep (*Ovis tragelaphus*, ♀♀) born in the Gardens.

OUR ASTRONOMICAL COLUMN.

THE MOON'S APPARENT DIAMETER.—A recent number of *Ciel et Terre* (April 2) contains an article on the moon's angular diameter, by M. P. Stroobant, of which a translation, with copious notes, appears in the *Observatory* for May. The methods employed in the determination of the apparent diameter of our satellite are (1) micrometer measures, (2) meridian passages, (3) heliometer measures, (4) photography, (5) occultation of stars by the moon, (6) eclipses. A comparison of the principal results obtained during the present century by these various methods indicates that occultations give the most accordant values, and M. Stroobant remarks that the method of occultation is the only one in which the apparent diameter of the moon is not augmented by physical or physiological causes. Accurate observations of occultations indicate that the lunar diameter has a value lying between $31' 5''$ and $31' 6''$, but M. Stroobant urges that this approximation is not sufficient. He concludes by saying:—"The application of photography to the determination of the exact instant of disappearance or of reappearance of a star would permit, without doubt, the attainment of great precision, especially when these phenomena occur at the dark limb of the moon, or during eclipses, when a number of small stars can be observed. . . . About every nineteen years the moon passes over the Pleiades in conditions more or less advantageous for observation; this phenomenon will occur next year. Might not the occasion be profitably used in securing a number of photographs at various observations? If these are sufficiently separated from one another, it would be possible to deduce a new value for the parallax of the moon."

GALE'S COMET.—This comet, for which we gave an ephemeris last week, is now very favourably placed for observation in the northern hemisphere. Its track lies from a point near ζ Hydræ (May 7) to near ζ Leonis (May 15). From South Kensington we have received the following report:—"The comet has been clearly visible to the naked eye for some days past, and when viewed with an opera-glass is quite a conspicuous object. Observed with the telescope it appears as a large slightly elongated nebulous mass with a central condensation, but with no obvious tail. The spectrum of the comet was observed by Mr. Fowler on May 7, and was seen to consist of the three carbon bands which have so frequently been recorded in other comets. The bands were found to be coincident with the corresponding bands seen in the spectrum of the blue base